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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,250	11/10/2003	William M. Hiatt	2269-5558A US (99-0253.00)	3203
24247	7590	08/28/2008	EXAMINER	
TRASK BRITT			SHECHTMAN, SEAN P	
P.O. BOX 2550			ART UNIT	PAPER NUMBER
SALT LAKE CITY, UT 84110			2121	
		NOTIFICATION DATE		DELIVERY MODE
		08/28/2008		ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WILLIAM M. HIATT, WARREN M. FARNWORTH,
DAVID R. HEMBREE, PETER A. BENSON,
and SYED SAJID AHMAD

Appeal 2008-0262
Application 10/705,250¹
Technology Center 2100

Decided: August 26, 2008

Before JAMES D. THOMAS, JAY P. LUCAS, and
CAROLYN D. THOMAS, *Administrative Patent Judges*.

THOMAS, C., *Administrative Patent Judge*.

DECISION ON APPEAL

¹ Application filed November 10, 2003. The real party in interest is Micron Technology, Inc.

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I. STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from a final rejection of claims 1-33 mailed June 15, 2005. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

A. INVENTION

Appellants invented a system and method for effecting programmed material consolidation techniques to fabricate features on semiconductor devices and related components. (Spec., 2:[0002].)

B. ILLUSTRATIVE CLAIM(S)

The appeal contains claims 1-33. Claims 1, 12, and 24 are independent claims. Claim 1 is illustrative:

1. A programmable material consolidation system, comprising:

at least one fabrication site for effecting a programmed material consolidation process; and

a substrate handling system configured to introduce one or more substrates into the at least one fabrication site and remove the one or more substrates from the at least one fabrication site.

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C. REFERENCES

The references relied upon by the Examiner in rejecting the claims on appeal are as follows:

Aronstein	US 3,889,355	Jun. 17, 1975
Caccoma	US 4,027,246	May 31, 1977

D. REJECTIONS

The Examiner entered the following rejections which are before us for review:

Claims 1-23 are rejected under 35 U.S.C. § 102(b) as being anticipated by Aronstein; and

Claims 24-33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Caccoma in view of Aronstein.

II. PROSECUTION HISTORY

Appellants appealed from the Final Rejection and filed an Appeal Brief (App. Br.) on October 26, 2005. The Examiner mailed an Examiner's Answer (Ans.) on November 18, 2005. Appellants filed a Reply Brief (Reply Br.) on January 18, 2006.

III. ISSUES

Whether Appellants have shown that the Examiner erred in rejecting claims 1-23 as being anticipated by Aronstein and claims 24-33 as being obvious over the combination of Caccoma and Aronstein.

IV. FINDINGS OF FACT

The following findings of fact (FF) are supported by a preponderance of the evidence.

Appellants' Admissions

1. Appellants note that “photolithography processes, in which material is consolidated . . .” is readily understood by one of ordinary skill in the pertinent art (App. Br. 7).

Aronsatein

2. Aronsatein discloses an exposure program (col. 10, l. 17).
3. Aronsatein discloses a “main control unit for the manufacturing system” (col. 10, ll. 23-24).
4. Aronsatein discloses that “[n]ormally, a plant erected to incorporate the manufacturing system of this mention [sic] will be under computer control, and be incorporated in the basic control system 112 of Fig. 9” (col. 16, ll. 5-8).
5. Aronsatein discloses that “any associated memory of the computer . . . may have entered into it a plurality of part programs consisting of a series of instructions specifying the required operations for a work-piece . . .” (col. 16, ll. 8-12).
6. Aronsatein discloses that “the various processing sectors are connected by a central transport system 2 which will include a wafer handler which can pick up a wafer from one sector and deposit it at another” (col. 6, ll. 53-56).

7. Aronsatein discloses that “a handler 31 will pick up the wafers in a horizontal position from the load station 30 rotate the wafers 90° in a vertical position . . .” (col. 9, ll. 4-7).

V. PRINCIPLES OF LAW

"Both anticipation under § 102 and obviousness under § 103 are two-step inquiries. The first step in both analyses is a proper construction of the claims. . . . The second step in the analyses requires a comparison of the properly construed claim to the prior art." *Medichem, S.A. v. Rolabo, S.L.*, 353 F.3d 928, 933 (Fed. Cir. 2003) (internal citations omitted).

"[A]nticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim . . ." *In re King*, 801 F.2d 1324, 1326 (Fed. Cir. 1986) (citing *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458 (Fed. Cir. 1984)). "[A]bsence from the reference of any claimed element negates anticipation." *Kloster Speedsteel AB v. Crucible, Inc.*, 793 F.2d 1565, 1571 (Fed. Cir. 1986).

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). Analysis of whether a claim is patentable over the prior art under 35 U.S.C. § 102 begins with a determination of the scope of the claim. We determine the scope of the claims in patent applications

not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). The properly interpreted claim must then be compared with the prior art.

Appellants have the burden on appeal to the Board to demonstrate error in the Examiner's position. See *In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.") (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

VI. ANALYSIS

Grouping of Claims

Appellants separately argue claims 1, 2, 4, and 24.

In the Brief, Appellants argue claims 1, 3, 5-7, 9-15, 17-19, and 21-23 as a group (App. Br. 7-8). We will, therefore, treat claims 1, 3, 5-7, 9-15, 17-19, and 21-23 as standing or falling with claim 1.

Appellants argue claims 2 and 13 as a group (App. Br. 8-9). For claim 13, Appellants repeat the same argument made for claim 2. We will, therefore, treat claim 13 as standing or falling with claim 2.

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Appellants argue claims 4, 8, 16, and 20 as a group (App. Br. 8-9). For claims 8, 16, and 20, Appellants repeat the same argument made for claim 4. We will, therefore, treat claims 8, 16, and 20 as standing or falling with claim 4.

Appellants argue claims 24-33 as a group (App. Br. 11-12). For claims 25-33, Appellants repeat the same argument made for claim 24. We will, therefore, treat claims 25-33 as standing or falling with claim 24.

See 37 C.F.R. § 41.37(c)(1)(vii). *See also In re Young*, 927 F.2d 588, 590 (Fed. Cir. 1991).

The Board's Claim Construction

"Our analysis begins with construing the claim limitations at issue."
Ex Parte Filatov, No. 2006-1160, 2007 WL 1317144, at *2 (BPAI 2007).

Claims are given their broadest reasonable construction "in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d at 1364 (Fed. Cir. 2004).

To determine whether Aronsatein anticipates claims 1-23, we must first determine the scope of the claims. Our reviewing court stated in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005), *cert. denied*, *sub nom. AWH Corp. v Phillips*, 126 S. Ct. 1332 (2006):

The claims, of course, do not stand alone. Rather, they are part of "a fully integrated written instrument," *Markman*, 52 F.3d at 978, consisting principally of a Specification that concludes with the claims. For that reason, claims "must be read in view of the specification, of which they are a

part.” *Id.* at 979. As we stated in *Vitronics*, the specification “is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” 90 F.3d at 1582.

We note that Appellants have not identified any specific definition for “programmed material consolidation process”, nor are we aware of any special definition in the art for this term. From our review of the original Specification, we find no express definition for “programmed material consolidation process” in the Specification. Appellants have merely identified types of programmed material consolidation methods, such as stereolithography, and using apparatuses that are configured to fabricate features on semiconductor devices (Spec., 2:¶[0002]). However, we find that the present invention is not limited to a stereolithography method or any of the recited methods or apparatuses. Instead, we find that any method capable of providing a programmed process whereby components are fabricated is included within the scope of a programmed material consolidation process. Additionally, Appellants have admitted that a photolithography process reads on at least a material consolidated process (FF 1).

The Anticipation Rejection

We first consider the Examiner’s rejection of claims 1-23 under 35 U.S.C. § 102(b) as being anticipated by Aronsatein.

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"Having construed the claim limitations at issue, we now compare the claims to the prior art to determine if the prior art anticipates those claims."

In re Cruciferous Sprout Litig., 301 F.3d 1343, 1349 (Fed. Cir. 2002).

Claims 1, 3, 5-7, 9-15, 17-19, and 21-23

Appellants contend:

One of ordinary skill in the pertinent art would readily understand, however, that photolithography processes, in which material is consolidated by exposing a resist through a reticle and then using chemical developers, is not "programmed material consolidation," as no program is required to effect the basic acts of the photolithography process.

(App. Br. 7; *see also* Reply Br. 2.)

The Examiner found that Aronsatein teaches that each sector is envisioned to be under suitable control, either by a general purpose computer or a hard-wired system (Ans. 8). The Examiner also found that Aronsatein discloses "part programs" consisting of a series of instructions specifying the required operations for a work-piece (Ans. 9-10). We agree.

Appellants and Examiner having both agreed that the 'photolithography process' found in Aronsatein includes a material consolidation process. We are now left with determining whether Aronsatein's process also includes "programming" for effecting the basic acts of the photolithography process. As demonstrated by the Examiner *supra*, we answer this in the affirmative.

Specifically, Aronsatein discloses an exposure program (FF 2), a main control unit (FF 3), the system being under computer control (FF 4), and a plurality of part programs consisting of a series of instructions specifying the required operations for a work-piece (FF 5). Therefore, we find that Aronsatein clearly includes “programming” features within its photolithography process.

Therefore, we do not find that Appellants have shown error in the Examiner’s rejection of illustrative claim 1. Appellants have not shown that Aronsatein lacks the above-noted disputed features of claim 1. Instead, we find the Examiner has set forth a sufficient initial showing of anticipation. Therefore, we affirm the rejection of independent claim 1 and of claims 3, 5-7, 9-15, 17-19, and 21-23, which fall therewith.

Claims 2 and 13

Appellants contend that “Aronsatein lacks any express or inherent description of a substrate handling system that comprises a rotary feed system” (App. Br. 8; *see also* 9).

The Examiner found that Aronsatein teaches a rotary feed system in col. 9, lines 1-14 (Ans. 3). We agree.

Aronsatein specifically discloses a handler that is capable of rotating the wafers (FF 6-7). Thus, we find that the claimed “rotary feed system” reads on Aronsatein’s rotating handler.

Therefore, we do *not* find that Appellants have shown error in the Examiner's rejection of claim 2. Appellants have not shown that Aronsatein lacks the above-noted disputed features of claim 2. Instead, we find the Examiner has set forth a sufficient initial showing of anticipation. Therefore, we affirm the rejection of claim 2 and of claim 13, which falls therewith.

Claims 4, 8, 16, and 20

Appellants contend "Aronsatein does not expressly or inherently describe a system that includes a plurality of fabrication sites for effecting a programmed material consolidation process" (App. Br. 8-9). We disagree.

Aronsatein discloses in Fig. 1 a plurality of processing stations/sectors 1A to 1F, each comprising a set of processing steps (*see also* col. 5, ll. 31-34). As noted *supra*, we have already established that Aronsatein discloses a programmed material consolidation process.

As such, we find that Appellants have *not* shown error in the Examiner's rejection of claim 4. Appellants have not shown that Aronsatein lacks the above-noted disputed features of claim 4. Instead, we find the Examiner has set forth a sufficient initial showing of anticipation. Therefore, we affirm the rejection of claim 4 and of claims 8, 16, and 20, which fall therewith.

The Obviousness Rejection

We now consider the Examiner's rejection of claims 24-33 under 35 U.S.C. § 103(a) as being obvious over the combination of Caccoma and Aronsatein.

Appellants contend that “[n]either Caccoma nor Aronsatein teaches or suggests that a programmed material consolidation process may be used to form at least a portion of at least one object at any of the pieces of fabrication equipment, or process sectors or stations, of the systems disclosed therein” (App. Br. 12). We disagree.

As noted *supra*, we find Appellants' arguments unpersuasive as we have found that Aronsatein does indeed disclose a programmed material consolation process. Therefore, the teachings of Caccoma are merely cumulative thereto.

We also note that Appellants have presented no arguments directed to the combinability of the references Caccoma and Aronsatein. Accordingly, Appellants have waived any such arguments, and the combinability of such references will not be addressed here.

As such, we find that Appellants have *not* shown error in the Examiner's rejection of claim 24. Appellants have not shown that the combination of Caccoma and Aronsatein lacks the above-noted disputed features of claim 24. Instead, we find the Examiner has set forth a sufficient initial showing of obviousness. Therefore, we affirm the rejection of claim 24 and of claims 25-33, which fall therewith.

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VII. CONCLUSIONS

We conclude that Appellants have *not* shown that the Examiner erred in rejecting claims 1-33.

Thus, claims 1-33 are not patentable.

VIII. DECISION

In view of the foregoing discussion, we affirm the Examiner's rejection of claims 1-33.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED

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